



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,634

07/19/2005

Junya Takahashi

1823-0128PUS1

6943

2292 7590 11/06/2007  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

11/06/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	Application No. 10/542,634	Applicant(s) TAKAHASHI ET AL.	
	Examiner Weiping Zhu	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Status of Claims*

1. Claims 1-9 are currently under examination. Applicant's election without traverse of Invention I, Claims 1-9 in the reply filed on October 11, 2007 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-033866.

With respect to claim 1, JP ('866) discloses a combined oil-control ring consisting of a spacer expander and a pair of side rails supported by the spacer expander (Figures 1 and 2), wherein at least ears of the spacer expander made of austenitic stainless steel (paragraph [0011] and Figures 1 and 2, machine translation) in contact with inner peripheral surface of the side rails are subjected to gas nitriding to form a nitriding surface layer of a desired thickness of 12-25 microns (paragraphs [0015] and [0016], machine translation).

JP ('866) does not disclose that the surface nitriding layer comprise a phase having peaks at  $2\theta = 40^\circ$  and  $2\theta = 46^\circ$  by Cu-K $\alpha$  X-ray diffraction as claimed. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or

substantially identical process, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and JP ('866)'s austenitic stainless steels are identical or substantially identical in structure or composition and are produced by identical or substantially identical gas nitriding processes, therefore a prima facie case of obviousness exists. The same phase would be expected on the surface of the austenitic stainless steel of JP ('866) as on the surface of the austenitic stainless steel after the nitriding process.

The thickness range of the nitriding surface layer overlaps the claimed range. A prima facie case of obviousness exists. See MPEP 2144.05 I.

The phrase "are subjected to gas nitriding at a temperature of 470° C or higher" in lines 4 and 5 of claim 1 is a process limitation in a product claim. Even though the claim 1 is limited by and defined by the process, determination of patentability is based on the product itself. JP ('866) discloses a combined oil-control ring (abstract, machine translation), which reasonably appears to be only slightly different than the respective claimed products in claim 1. A rejection based on section 103 of the status is eminently fair and acceptable. See MPEP 2113.

3. Claims 2-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('866) as applied to claim 1 above and in view of JP 2002-310299.

With respect to claims 2-4 and 6-8, JP ('866) does not disclose the claim features. JP ('299) discloses forming on the surface of the side rails faced to the spacer expander a fluorocarbon resin coating containing a solid lubricant comprising

Art Unit: 1793

molybdenum disulfide and graphite (Figures 1 and 2, claims 3 and 4, machine translation). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a fluorocarbon resin coating containing a solid lubricant on the surface of the side rails faced to the spacer expander of JP ('866) as disclosed by JP ('299) in order to prevent abnormal vibration and eliminate noise as disclosed by JP ('299) (abstract, machine translation).

4. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP ('866) in view of JP ('299) as applied to claims 2 and 6 above and further in view of JP 02-214796 A.

With respect to claims 5 and 9, JP ('866) in view of JP ('299) does not disclose that the resin contains at least one of  $\text{TiO}_2$  and C12A7 compound as claimed. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the molybdenum disulfide of JP ('866) in view of JP ('299) with claimed  $\text{TiO}_2$  with expected success, because these compounds are functionally equivalent in terms of being used as lubricants as disclosed by JP ('796 A) (abstract). See MPEP 2144.05 II.

### **Conclusion**

5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

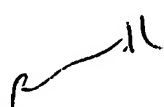
Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WZ

10/26/2007

  
ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER